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ABSTRACT

Comparison of Sodium Valproat and Phenytoin Long-Term Monotherapy to sRANKL/OPG Ratio as a Bone Resorption Marker in Epilepsy Patient (Study at Ambulatory Care of Neurology Department RSU Haji Hospital Surabaya)

Background : Chronic antiepileptic therapy is associated with bone loss, both enzyme inducer antiepileptic drugs and non-enzyme inducer antiepileptic drugs. Bone resorption was reported to be dependent on a cytokine known as soluble receptor activator of nuclear factor kappa-B ligand (sRANKL), which is balanced by osteoprotegerin (OPG). The sRANKL/OPG is critical for physiology bone remodeling and should enable to assessing osteoblast-induced stimulus of osteoclast. Abnormalities in the sRANKL/OPG ratio may lead to several osteopathies.

Objective : The aim of this prospective observational study was to analyze sRANKL/OPG ratio in epilepsy patient on long-term sodium valproat and phenytoin monotherapy.

Method : Serum sRANKL and Osteoprotegrin (OPG) levels were measured on routine patient visits to ambulatory care of neurology department Haji General Hospital Surabaya. The sampling was collected by consecutive sampling in cross sectional study from August – September 2018 as prospective observational study.

Result : 22 patient with epilepsy were participated in this study. A statistically significant difference in ratio sRANKL/OPG between sodium valproat and phenytoin group (p=0,022).

Conclusion : The decreasing in the quality of bone mass described by ratio sRANKL/OPG in sodium valproate group (4,547) was higher than phenytoin group (3,664).

Keyword : Epilepsy, antiepileptic drugs, sodium valproat, phenytoin, ratio sRANKL/OPG